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Job No.: CTCE/BBMP/KRIDL/W.No.14/CSR-50g/SAND-Gradation/2019-20

06.03.2020

TEST REPORT ON SIEVE ANALYSIS OF FINE AGGREGATES

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of Work	:	Improvements to roads and drains at Katarayanagara in Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
*Reference	:	EE/DD/WO/521/2019-20 Date: 22.01.2020
*Sample ID	:	Sand For Pointing
Test Method As Per	:	IS - 1542 : 1992 (RA-2019)
Sample Received on	:	04.03.2020
Date of Testing	:	06.03.2020
Report Issue Date	:	06.03.2020

Total Wt. of Aggregates in gms **1000**

Is Sieved Size in mm	Cumulative Weight Passing in %	Specification Limits as per IS : 1542 - 1992 (RA-2019)
10	100	100
4.75	97.80	95-100
2.36	96.80	95-100
1.18	93.80	90-100
600 Micron	87.60	80-100
300 Micron	45.10	20-65
150 Micron	12.10	0-15

* Information is furnished by the Customer/Representative

Remarks : This tested sample satisfies requirement.

Note:

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Job No.: CTCE/BBMP/KRIDL/W.No.14/CSR-50g/Precast Slab/2019-20

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CORE

06.03.2020

* Customer	:	Asst. Executive Engineer, T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	Technical Manager (West), KRIDL, Bangalore.
* Name of work	:	Improvements to roads and drains at Katarayanagara in Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
* Reference	:	EE/DD/WO/521/2019-20 Date: 22.01.2020
* Sample ID	:	Precast Slab (100mm thick)
* Grade of Concrete	:	M_{20}
Techinical Reference	:	IS:516-1959 (RA- 2013), SP-24:1983.
Sample Received on	:	04.03.2020
Date of Testing	:	06.03.2020
Report Issue Date	:	06.03.2020

Sl No	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m^3)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm^2)	Correction Factor for the Dia. (Strength of the Core x 1.08)	Corrected Cylinder Compressive Strength (N/mm^2)	Equivalent Cube Compressive Strength (N/mm^2)
1	50.00	82.00	0.416	2583.74	1.64	0.961	30.50	15.53	16.78	17.45	21.82
2	50.00	84.00	0.420	2546.48	1.68	0.965	32.85	16.73	18.07	17.44	21.81
3	50.00	85.00	0.419	2510.53	1.70	0.968	33.75	17.19	18.56	17.96	22.45

* Information is furnished by the Customer/Representative

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06.03.2020

Job No.: CTCE/BBMP/KRIDL/W.No.14/GSB-5/GR/2019-20

TEST REPORT ON GRADATION FOR GRANULAR SUB BASE

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of work	:	Improvements to roads and drains at Katarayanagara in Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
* Reference	:	EE/DD/WO/521/2019-20 Date: 22.01.2020
* Sample ID	:	GSB-(Grading V)
Test Method as per	:	IS - 2720 (Part 4) : 1985 (RA-2015), MORTH 400-1
Date of Testing	:	06.03.2020
Report Issue Date	:	06.03.2020

Oven Dry Wt (gm) : 5000

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Specified Limits
75.0	0	0	0.00	100	100
53.0	325	325	6.50	93.50	80-100
26.50	1330	1655	33.10	66.90	55-90
9.50	925	2580	51.60	48.40	35-65
4.75	935	3515	70.30	29.70	25-50
2.36	875	4390	87.80	12.20	10-20
0.850	350	4740	94.80	5.20	2-10
0.425	155	4895	97.90	2.10	0-5
PAN	105				
Total	5000				

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* Information is furnished by the Customer/Representative

Remarks: Satisfies MORTH Specifications as per Table 400-1, Grading V

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Job No.: CTCE/BBMP/KRIDL/W.No.14/GSB-5/AL/2019-20 Date 06.03.2020

TEST REPORT ON ATTERBERG LIMITS TEST FOR GRANULAR SUB BASE

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of work	:	Improvements to roads and drains at Katarayanagara in Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
* Reference	:	EE/DD/WO/521/2019-20 Date: 22.01.2020
* Sample ID	:	GSB-(Grading V)
Test Method as per	:	IS - 2720 (Part - 5) : 1985 (RA-2015), MORTH Table : 400-1
Date of Testing	:	06.03.2020
Report Issue Date	:	06.03.2020

Tests on filler screen materials (As per Table : 400-13)

Sl. No.	Particulars	Test Results	Requirement as per MORTH
1	Liquid Limit, %	23.00	25.0% Maximum.
2	Plasticity Index, %	Non Plastic	6.0% Maximum.

* Information is furnished by the Customer/Representative

Remarks: Satisfies MORTH Specifications as per Table 400-1, GSB-(Grading V)

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09.03.2020

Job No.: CTCE/BBMP/KRIDL/W.No.14/WMM/Gradation/2019-20

TEST REPORT ON GRADATION OF WET MIX MACADAM

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of Work	:	Improvements to roads and drains at Katarayanagara in Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
* Reference	:	EE/DD/WO/521/2019-20 Date: 22.01.2020
Sample ID	:	Wet Mix Macadam
Test Method as per	:	IS - 2386 (part-1) : 1963 (RA-2016)
Date of Testing	:	09.03.2020
Report Issue Date	:	09.03.2020

Oven Dry Wt (gm): **5000**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits As per Morth Table 400-13
53	0	0	0	100	100
45	123	123	2.5	97.5	95-100
22.4	1305	1428	28.56	71.44	60-80
11.2	1055	2483	49.66	50.34	40-60
4.75	685	3168	63.36	36.64	25-40
2.36	504	3672	73.44	26.56	15-30
0.600	595	4267	85.34	14.66	8-22
0.075	604	4871	97.42	2.58	0-8

*Information is furnished by the Customer/Representative.

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Job No.: CTCE/BBMP/KRIDL/W.No.14/WMM/Gradation/2019-20 09.03.2020

TEST REPORT ON GRADATION OF WET MIX MACADAM

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of Work	:	Improvements to roads and drains at Katarayanagara in Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
* Reference	:	EE/DD/WO/521/2019-20 Date: 22.01.2020
Sample ID	:	Wet Mix Macadam
Test Method as per	:	IS - 2386 (part-1) : 1963 (RA-2016)
Date of Testing	:	09.03.2020
Report Issue Date	:	09.03.2020

Oven Dry Wt (gm): **5000**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits As per Morth Table 400-13
53	0	0	0	100	100
45	85	85	1.7	98.3	95-100
22.4	1395	1480	29.60	70.40	60-80
11.2	1025	2505	50.10	49.90	40-60
4.75	685	3190	63.80	36.20	25-40
2.36	600	3790	75.80	24.20	15-30
0.600	580	4370	87.40	12.60	8-22
0.075	425	4795	95.90	4.10	0-8

*Information is furnished by the Customer/Representative.

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TEST REPORT ON GRADATION OF WET MIX MACADAM

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of Work	:	Improvements to roads and drains at Katarayanagara in Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
* Reference	:	EE/DD/WO/521/2019-20 Date: 22.01.2020
Sample ID	:	Wet Mix Macadam
Test Method as per	:	IS - 2386 (part-1) : 1963 (RA-2016)
Date of Testing	:	09.03.2020
Report Issue Date	:	09.03.2020

Oven Dry Wt (gm): **5000**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits As per Morth Table 400-13
53	0	0	0	100	100
45	90	90	1.8	98.2	95-100
22.4	1205	1295	25.90	74.10	60-80
11.2	1150	2445	48.90	51.10	40-60
4.75	625	3070	61.40	38.60	25-40
2.36	525	3595	71.90	28.10	15-30
0.600	635	4230	84.60	15.40	8-22
0.075	495	4725	94.50	5.50	0-8

*Information is furnished by the Customer/Representative.

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Job No.: CTCE/BBMP/KRIDL/W.No.14/WMM/AIV/2019-20 09.03.2020

TEST REPORT ON IMPACT VALUE OF AGGREGATE

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of Work	:	Improvements to roads and drains at Katarayanagara in Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
* Reference	:	EE/DD/WO/521/2019-20 Date: 22.01.2020
* Sample ID	:	Wet Mix Macadam
Test Method as per	:	IS - 2386(Part -4) : 1963 (RA-2016)
Date of Testing	:	09.03.2020
Report Issue Date	:	09.03.2020

Sl No.	Details	Trial No. 1	Trial No. 2	Average
1	Total weight of aggregate sample filling the cylindrical measure = W_1 g	385	387	
2	Weight of agregate passing 2.36 mm sieve after the test = W_2 g	84	85	
3	Weight of aggregate retained 2.36 mm sieve after the test = W_3 g	301	302	
4	Aggregate Impact value = percent fines 100* (W2/W1)%	21.82	21.96	**21.89**

*Information is furnished by the Customer/Representative.

Comments:

→ Maximum allowable Aggregate Impact value for Wet Mix Macadam is 30%

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Job No.: CTCE/BBMP/KRIDL/W.No.14/WMM/Shape.T/2019-20 09.03.2020

TEST REPORT ON FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP,
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of Work	:	Improvements to roads and drains at Katarayanagara in Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
* Reference	:	EE/DD/WO/521/2019-20 Date: 22.01.2020
* Sample ID	:	Wet Mix Macadam
Test Method as per	:	IS - 2386(Part 1) : 1963 (RA 2016)
Date of Testing	:	09.03.2020
Report Issue Date	:	09.03.2020

Sl.No.	Description	Result
1	Flakiness Index	11.25%
2	Elongation Index	12.90%
3	Combined Flakiness & Elongation Index	24.15%

*Information is furnished by the Customer/Representative.

Comments:

→ Maximum allowable Flakiness & Elongation Index for Wet Mix Macadam is 30%

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Job No.: CTCE/BBMP/KRIDL/W.No.14/CSR-50g/Cube/2019-20 13.03.2020

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	:	**Asst. Executive Engineer,** T. Dasarahalli Sub Division, BBMP, Bangalore.
* Agency	:	**Technical Manager (West),** KRIDL, Bangalore.
* Name of the work	:	Improvements to roads and drains at Katarayanagara in Ward No.14, Dasarahalli Sub Division, BBMP, Bangalore.
* Reference	:	EE/DD/WO/521/2019-20 Date: 22.01.2020
* Sample ID	:	Dry Lean Concrete
Technical Reference	:	IS: 516-1959 (RA-2018)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	Dry Lean Concrete
Compressive Strength as on	:	7th day
Sample Received on	:	13.03.2020
Report Issue Date	:	13.03.2020

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	06.03.2020	13.03.2020	8.135	259.6	11.54
2	06.03.2020	13.03.2020	8.219	264.3	11.75
3	06.03.2020	13.03.2020	8.325	272.9	12.13

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